

AMENDMENTS TO THE SPECIFICATION:

Prior to paragraph [0001], please inset:

[0000.5] This application is a divisional of co-pending application 10/689,193 filed on October 12, 2000.

Please replace the section heading prior to paragraph [0001] with the following section heading:

Background Field of the Invention

Please replace the section heading prior to paragraph [0002] with the following section heading:

Field Background of the Invention

Please replace paragraph [0006] with the following amended paragraph:

[0006] At the bottom folding station, as shown in FIG. 1, representative of known designs, the bottom end panels are folded down and inward ~~inward and down~~ to form the bottom end wall. The standard carton design as shown comprises a rectangular carton blank having open top and bottom ends, first, second, third and fourth body panels adjoining first, second, third and fourth bottom end closure panels, respectively, with the first and third bottom end panels oppositely disposed and scored to fold inwardly when the second and fourth bottom end closure panels are folded inwardly down to form the bottom of the carton. In practice, the carton blank is

loaded onto the mandrel with either the second or fourth (unscored) bottom end panel facing in the direction of movement of the mandrel. At the folding station, a pair of break fingers contact and push inward on the first and third bottom end panels from the sides, which starts the actual folding of the bottom panels. This folding, or "breaking" of the scored bottom end panels acts to partially pull down the second and fourth bottom end panels, which are then biased further downward by a hooder assembly having a pair of inwardly angled surfaces. The hooder assembly moves up and down in line with the longitudinal axis of the carton, and the angled surfaces act to urge the second and fourth bottom end panels downward to substantially complete folding of the bottom end wall.

Please replace paragraph [0019] with the following amended paragraph:

[0019] The folding station 30 includes a pair of oppositely disposed reciprocating break fingers 32 which contact and fold inwardly the scored first 50 and third 54 bottom end closure panels. As shown in FIG. 1, it is standard in the art to have the break fingers 32 oriented so that they push in the scored bottom end panels from the sides. This is because known break finger designs would interfere with the forward movement of the cartons, if the break fingers were oriented front and back, rather than on the sides, relative to carton movement. The present invention provides, for the first time, a folding station which can be readily adapted between these two orientations. This is accomplished by means of break fingers 58, 60 which reciprocate between two positions, a first position wherein the break fingers are outside of the circle described by the bottom end panels of the carton, so that unfolded cartons can index into and out of the folding station without interference from the break fingers, and a second position wherein the break fingers engage and urge inward on the scored first and third bottom end panels, thus commencing the folding process.

Please replace paragraph [0022] with the following amended paragraph:

[0022] The folding is substantially completed by a reciprocating hooder unit 34 which moves up and down along the longitudinal axis of the carton as it is aligned with the folding station 30. As illustrated in FIG. 4, the hooder unit 34 has first 62 and second 64 angled surfaces which contact and fold inwardly down the second 52 and fourth 56 bottom end closure panels as the hooder unit 34 is moved toward the mandrel 16 and the carton loaded thereon. In a preferred embodiment of the invention, the hooder unit 34 has first 66 and second 68 adjacent hooder elements each having a smooth bottom surface angled acutely upward and inward from an opposite peripheral edge. The first 66 and second 68 hooder elements can be generally rectangular in cross-section with adjacent sides. In a particularly preferred embodiment of the invention, the angled surface 62 of the first hooder element 66 includes [a] ~~an~~ overhanging region 76 which extends over the angled surface 64 of the second hooder element 68 and provides a paper guide path 78 which ensures that the second angled surface 64 biases the [fourth] ~~second~~ bottom end panel [56] 52 over the [second] ~~fourth~~ bottom end panel [52] 56, so that the [fourth] ~~second~~ bottom end panel [56] 52 becomes the outermost bottom panel in the assembled carton.

Please replace paragraph [0023] with the following amended paragraph:

[0023] The apparatus of the present invention can further include means for folding back a J-flap when cartons including J-flaps are assembled. A J-flap is a region at the end of an end panel which is folded back in order to prevent a raw paperboard edge from contacting the interior contents of the carton, and is commonly a rectangular region which is die cut at the sides and scored to fold back upon the panel from which it is

formed. For example, a J-flap region 72 may be cut into the outer edge of the fourth bottom end panel 56, as illustrated in FIG. 2 and FIG. 3, with side cut lines 72a and 72b, and a score line 73. Referring to As shown in FIG. 4, a J-flap pull finger 74 resides within the interior of the first hooder element 66 and extends at an acute angle through the plane of the first angled surface 62 to catch and fold a scored ~~the~~ J-flap region 72 of ~~about the score line 73 and back toward the outer surface of the second fourth~~ bottom end panel ~~52~~ 56.

Please replace paragraph [0024] with the following amended paragraph:

[0024] A preferred embodiment of the present invention includes a J-flap pull finger 74 which is recessed into one of the two angled surfaces of the hooder unit and which can be moved between two positions, exposed and recessed. FIG. 4 illustrates a hooder unit 34 wherein the J-flap pull finger 74 is in the exposed position, i.e., the pull finger 74 extends beyond the plane of the angled surface 62 so that, as the hooder unit 34 is moved downward toward the carton bottom, the edge of the ~~second fourth~~ bottom end panel ~~52~~ 56, including the J-flap region 72 thereon, slides inwardly up along the angled surface 62. As the edge of the end panel ~~52~~ 56 traverses the angled surface 62, the J-flap region 72 engages the exposed J-flap pull finger 74 and is folded backwards to form a folded J-flap. When cartons do not contain J-flap regions, the J-flap pull finger 74 is moved into a recessed position, wherein it resides completely within the hooder unit 34. Once the first and second hooder elements 66, 68 are at rest on top of the newly closed carton bottom, the mandrel 16 begins to index the carton to a ski plate 70 (described below). The hooder elements 66, 68 stay in the rest position until the newly formed carton is moved from the hooder elements 66, 68 to the ski plate 70, after which the hooder elements move away from the mandrel 16.